

mj

EPA ID No. CA0067786749
Report No. FIS 1 R(83)E166

25 JUL 1983

Joseph R. Johnson
Chief Engineer
BKK Corporation
P.O. Box 3038
Torrance, CA 90510

Dear Mr. Johnson:

On June 8 and 9, 1983, a hazardous waste investigation was conducted at your BKK Sanitary Landfill located in West Covina, California. During the course of this investigation, information was gathered in accordance with Section 3007 of the Resource Conservation and Recovery Act of 1976. A copy of our investigation report is enclosed for your information.

If you have questions related directly to technical aspects of this report, please contact Daniel Shane at (415) 974-7842.

Sincerely yours,

*Original signed by
Robert Mandel*

for Kathleen G. Shimmis
Chief, Field Operations Branch

Enclosures

Inspection Report
Groundwater Monitoring Inspection Checklist
Closure and Post-Closure Plan Inspection Checklist

cc: P. Blais (T-2-1)
Wilson (T-2-2)

T-3-2:Shane:June:In9#3:7/21/83:604E

my

INSPECTION REPORT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 9

TOXICS AND WASTE MANAGEMENT DIVISION

FIELD OPERATIONS BRANCH

Purpose: Overview Investigation and
Evaluation of California Interim
Status Document Compliance Program

BKK Sanitary Landfill
2210 South Azusa Avenue
West Covina, California 91791

EPA ID Number: CAD067786749

Report Number: R(83)E166

Date of Inspection: June 8 and 9, 1983

EPA Inspector: Daniel M. Shane
Environmental Protection Specialist
Field Inspections Section

State Inspector: Robert McCrohan
Waste Management Specialist
Department of Health Services

Facility Representatives: Joseph R. Johnson
Chief Engineer
(213)539-7150

Jack Thompson
Operations Manager
(213)965-0911

Alexander C. Weston
Project Engineer

Rick Beesmer
Safety Director

Arjun Rajaratnam
Manager, Environmental Systems

Report Prepared By: CONCURRENCES Shane

SYMBOL	T-3-2	T-3-2	T-3				
SURNAME	Shane	Shane	Shane				
DATE	7-21-83	7-22-83	7-22-83				

BACKGROUND

BKK Corporation notified as a treatment/storage/disposal facility and a transporter of hazardous waste. The RCRA Part A application (Attachment 1) indicates that hazardous waste from off-site industrial sources are discharged to an on-site landfill, necessitating the implementation of a ground water monitoring program by November 19, 1981.

On August 6, 1982, J. M. Sorge, an EPA contractor, conducted a Federal Compliance Evaluation Inspection at the BKK facility. The inspection report (Attachment 2) covered the facility's ISD ground water monitoring program and noted the following deficiencies:

1. 40 CFR 265.91(c). Monitoring wells in the area of the second barrier are not capped. Annular spaces are not properly sealed to prevent contamination of ground water.
2. 40 CFR 265.92(a). The sampling and analysis plan does not include procedures and techniques for sample collection, preservation, shipment and chain of custody control.
3. 40 CFR 265.93(a). An outline of a ground water quality assessment program has not been prepared. A leachate containment plan has not been developed which deals with potential subsurface leakage along the southeastern boundary of the facility.

The major emphasis of the overview inspection is to verify that that the facility is maintaining compliance with their California Department of Health Service's (DOHS) Interim Status Document (ISD).

INVESTIGATION

Waste Management Practices

Landfilling

BKK provides for disposal of hazardous and non-hazardous municipal solid wastes by comingling and burial in cells. Bulk liquid wastes are discharged into a prepared cavity constructed in the daily refuse deposits. An inspection of the soil cover in the area of the previous days refuse lift and areas surrounding the active fill area disclosed no saturated conditions. Based on this one time observation, it appears that the operator was properly controlling the ratio of solid to liquid waste. The placement of cover materials appears to be well supervised and no areas of uncovered refuse were observed.

A description of the landfill operations was taken from the 1981 Draft Environmental Impact Report that addresses the consequences of modifying the City of West Covina's landfill use permit and is included in Attachment 3. Based on site observations and discussions with state regulatory personnel it appears that daily operations are well managed and carried out in compliance with the facility's operations plan.

Drum Burial

Containerized wastes are buried in separate areas. BKK is not presently accepting drums for disposal and the previous drum disposal area is completed covered and graded.

Injection Well Disposal

Acids and solutions containing cyanides were previously piped by gravity into injection wells drilled into portions of the landfill. This practice was discontinued in 1980.

Landfill Gas Incinerator

The migration of methane gas is currently controlled by a system of gas collection wells. Disposal of methane gas is currently by high temperature combustion in four incinerators.

Tank Storage and Treatment

The Part A application describes the storage and treatment of wastes in tanks. According to the operator, acids were treated in tanks by neutralization. This treatment process has been discontinued and the tanks have been removed.

Bulk Liquid Disposal

The ISD specifically prohibits the landfilling of bulk liquids unless certain criteria is met (i.e. chemically/physically resistant liner and leachate collection and removal system or treatment/stabilization to remove free liquids). DOHS, in a letter to BKK (Attachment 4) confirmed that the facility was in compliance with the ISD prohibition based on the site's hydro-geologic setting, leachate collection and removal system and co-disposal procedures.

Data currently available indicates that the BKK facility may not meet the following design and operational requirements for the landfilling of bulk liquids:

- A. The landfill liner must be chemically and physically resistant to the added liquid.

Lateral movement of leachate is controlled by clay dams and grout curtains. Current literature suggests that clays may exhibit high permeability when exposed to concentrated organics, especially organics of high and low pH. BKK has not sufficiently documented the chemical compatibility of their waste and liner materials.

Vertical movement of leachate is controlled by an impervious bedrock formation. In 1972, BKK discovered the movement of leachate through fractures in the bedrock below the original clay dam. Further documentation is needed to verify whether the bedrock meets the requirement of a physically resistant barrier.

- B. The leachate collection and removal system must be capable of removing all leachate produced.

A system of leachate extraction wells have been installed in gravel trenches at the base of each clay dam. In addition, a leachate collection pipe has been installed in the main canyon to intercept the lateral migration of leachate. Insufficient information is available to assess the adequacy of these systems. Of particular concern is the capability of this system to intercept the lateral migration of leachate towards the southeastern boundary of the facility.

- C. Before disposal the liquid waste must be treated or stabilized, chemically or physically, so that free liquids are no longer present.

BKK disposes bulk liquids into domestic refuse. The requirement specifically states that the liquid waste must be stabilized before disposal, not after. Even though the daily receipt of refuse appears to be capable of absorbing the liquid wastes, the facility has not complied with the requirement of eliminating free liquids before disposal.

Disposal of Liquid Ignitable and Reactive Wastes

The ISD prohibits the placement of ignitable or reactive wastes in the landfill, unless the waste is rendered non-ignitable or non-reactive before or immediately after placement in the landfill. BKK disposes of large volumes of both ignitable and reactive liquid wastes into municipal refuse. The operator assumes that these wastes are rendered non-ignitable/reactive after mixture with the refuse, however no testing has been conducted to verify this assumption.

General Waste Analysis

The ISD requires the operator to inspect and analyze each movement of hazardous waste from off-site. The facility's waste analysis plan (Attachement 5) specifies the procedures to be used to inspect each incoming load of waste. The operator primarily relies on the waste description on the manifest and past experience with regular customers to determine whether the waste can be admitted to the site. Sampling and laboratory analysis is performed only if the manifest does not provide sufficient waste load identification. The procedures used to analyze the waste includes the use of an explosimeter. This procedure is not capable of determining whether the waste exhibits the characteristic of ignitability since there is no correlation between explosivity and ignitability.

Since liquid ignitable wastes (i.e. flash point less than 140°F) presents an obvious hazard, an approved tester (i.e. open cup/closed cup method) for flash point should be included in the analysis of the waste. This test is especially important since the new State manifest does not supply the flash point of the material (nor the pH).

Waste Containment System

The BBK Landfill Disposal Site was established as a Class I and Class II sanitary landfill by the California Regional Water Quality Control Board (RWQCB) in 1963. The 583 acre site lies within the western sector of the San Jose Hills. Approximately 140 acres within the 583 acre parcel are used for Class I disposal operations. A Facility plan and site contour map is included in Attachment 6.

The Class I disposal area is located in a westerly draining canyon between two east-west trending ridges. Surface and subsurface drainage in the canyon eventually flows into Puente Creek and thence to San Jose Creek about 5 miles downstream from Azusa Avenue. Surface water flow within the site is limited to ephemeral flow due solely to localized seasonal rainfall.

To retain seepage and leachate within the Class I site boundaries several leachate collection and removal systems were designed and constructed between 1968 and 1982. The leachate collection and removal systems include two hydraulic barriers with a series of observation and extraction wells and a leachate collection under-drain pipe that is designed to intercept the lateral migration of leachate upstream from the barriers. The description of the barrier systems was derived from information supplied by the facility operator and information contained in the Draft Environmental Impact Report "Revocation, Suspension or Amendment of

4A	downgradient from barrier	34'
4B	downgradient from barrier	83'
4C	downgradient from barrier	38'
5	downgradient, 88' downgradient from barrier in stream channel	46'
6A	upgradient from barrier	46'
6B	upgradient from barrier	98'
7	upgradient from barrier in gravel trench, extraction well	66'
8	upgradient from barrier in gravel trench, extraction well	69'
9	downgradient, 1500' downgradient from barrier and north of stream channel	27'

The extraction wells have been constructed as part of the barrier system and are designed to remove leachate buildup on the upstream side of the barrier. Leachate collected at both barriers is pumped out and reused for dust control on-site in areas upgradient from the barriers. Liquid levels upstream of the barriers are monitored and samples are collected and analyzed monthly by a certified testing laboratory.

Hydraulic Barrier No. 2

In 1980 a second barrier system was constructed across a small canyon located on the south side of the site. The dam was constructed of low permeability clay and was keyed into unweathered shale and siltstone. The hydraulic barrier system has leachate extraction wells located between the dam and the disposal area.

A diagram and location plans for Barrier No. 2 are included in Attachment 10 and a summary of the monitoring wells in the vicinity of Barrier No. 2 is included below:

<u>Well Number</u>	<u>Location</u>	<u>Depth</u>
10	upgradient from barrier in gravel trench, extraction well	43'
11	upgradient from barrier in gravel trench, extraction well	47'
12	upgradient from barrier	47'
13	downgradient from barrier	81'
14	downgradient from barrier	76'
15	downgradient from barrier	31'

Leachate underdrain Collection and Removal System

An 8" perforated vetrified clay pipe has been installed to intercept the subsurface flow of leachate. The leachate piping is 1800' in length and extends downslope from the vicinity of

barrier No. 2 to barrier No. 1. A cased well functions as a leachate sump at the low end of the system. It was reported by the facility that records are kept of the volume of leachate pumped from the well and removed to the Class I area for disposal. The Plans for the leachate piping is included in Attachment 11.

Ground Water Monitoring Waiver Demonstration

Written documentation in support of a complete waiver from the ISD ground water monitoring requirements was presented to the investigator at the time of the inspection. The documentation presented was a Report entitled "Review of Geotechnical/Ground Water Considerations, Federal EPA Hazardous Waste and Consolidated Permit Regulations of May 17, 1983", prepared by Pacific Soils Engineering, Inc., December 19, 1980 (Attachment 12).

The facility operator stated that the existing system of observation and extraction wells are designed and operated to detect, collect and remove leachate. The wells were not intended to monitor the facility's impact on the quality of ground water in the uppermost aquifer underlying the site. The facility operator is prepared to demonstrate that there is no aquifer beneath the facility.

A review of the report disclosed that it was not sufficiently documented to allow the investigator to fully evaluate the waiver demonstration. Data collected from geotechnical investigations were only referenced and the data was not systematically compiled, interpreted and integrated into the Report's evaluation of the specific elements of a waiver demonstration. The Report's data and investigatory techniques for a waiver demonstration are described and the specific elements are evaluated below.

1. Determination of the Potential for Contaminant Migration from Facility to the Uppermost Aquifer

The report states that "based on the history of this on-going monitoring system and the clayey siltstone bedrock beneath and surrounding class 1 site it is probable that the site meets waiver requirements that ... low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells or to surface water ...". The report references a State of California Department of Water Resources report that classifies the rocks beneath the site as "non-water bearing rocks". Based on this report, the on-going monitoring program and the geologic explorations conducted during the construction of the hydraulic barriers it was concluded that "no aquifer exists beneath the site, only occasional, seasonal perched water levels which are more or less lenticular in nature".

The statement that no aquifer exists beneath the site is contradictory to the information provided in the report that identifies a "perched" water zone and an intermittent spring. The EPA definition of an aquifer is "a geologic formation,

group of formations, or part of a formation capable of yielding significant amounts of ground water to wells or springs. The report does not provide sufficient evidence supporting their contention that the perched water zone is not an aquifer as defined by EPA.

In order to establish the potential for migration of contaminants from the facility to the uppermost aquifer, a demonstration must address the site water balance and unsaturated zone characteristics.

Determination of Water Balance

The demonstration does not evaluate the site water balance. A demonstration must address a water balance based upon the relationship among precipitation, evapotranspiration, surface runoff and soil moisture storage.

Unsaturated Zone Characteristics

The demonstration does not provide a definitive evaluation of the subsurface geology, physical properties, depth to ground water and attenuation properties of the unsaturated zone.

2. Determination of the Potential for Contaminant Migration Through Uppermost Aquifer to Water Supply Wells or Surface Water

The report states that "since no aquifer is identified beneath the Class I and Class II sites and hazardous wastes or their constituents are trapped and removed through the hydraulic barriers, it is probable that they do not migrate outside the site".

A comprehensive investigation into the potential for contaminants to migrate through the uppermost aquifer, and any interconnected aquifers to water supply wells or surface waters has not been completed for this site. Effective hydrologic interconnections may exist in the fractured and jointed bedrock known to exist beneath the site. The disposal site appears to be located within the head waters of Puente Creek. The natural drainage and flow path appears to be westerly along the Creek and ground water flow could migrate towards the aquifers of the Main San Gabriel Basin. A more in-depth evaluation of the continuity of the hydraulic pathway from the facility to wells and surface waters of the Main

San Gabriel Basin should be made. (Records show that the first barrier dam failed because the fractured bedrock beneath the keyway provided a conduit for the escape of leachate.)

An evaluation of the potential rate and extent of contaminant migration in the uppermost aquifer should be made from an assessment of the geologic materials, physical properties and the velocity of ground water flow in the saturated zone. Insufficient information is provided on the proximity to water supply wells and surface waters, ground water flow velocity and the flow direction. These are critical factors influencing contaminant entry into wells and the surface water environment.

Compliance with ISD Ground Water Monitoring Requirements

BKK conducts a ground water monitoring program as part of its RWQCB Waste Discharge Requirements ORDER NO. 78-140 (Attachment 13). Monitoring is performed immediately upgradient and downgradient of the hydraulic barriers previously discussed. The program was primarily designed to monitor leakage at these barrier locations.

On December 22, 1980 DOHS issued the facility ISD ground water monitoring requirements and on May 25, 1982 RWQCB revised its monitoring and reporting provisions of the Waste Discharge Requirements (Attachment 14) to conform with the ISD requirements. The new self monitoring and reporting program requires BKK to submit to RWQCB a monthly monitoring report. A copy of the February 1983 monitoring report for BKK is included in Attachment 15.

The existing ground water monitoring program was evaluated for compliance with the ISD ground water monitoring requirements. For the purposes of the evaluation it was assumed that an aquifer exists beneath the site (although the facility is prepared to demonstrate that no aquifer exists) and the downgradient barrier wells are ground water monitoring wells. The upgradient barrier wells would not yield ground water samples representative of ground water quality since they would be affected by the facility.

An ISD ground water monitoring inspection checklist is included in Attachment 16.

Monitoring Wells

Upgradient Monitoring Wells

The existing ground water monitoring system does not include at least one monitoring well installed hydraulically upgradient from the limit of the waste management area.

Downgradient Monitoring Wells

The facility has installed seven downgradient wells in the vicinity of barrier No. 1 (well no. 3, 4, 5, 9) and barrier No. 2 (well no. 13, 14, 15). Based on the location of the wells, the existing ground water monitoring system does not appear to be capable of detecting a contaminant discharge along the south and southeastern boundaries of the facility.

Most of the existing monitoring wells reach depths of less than 90 feet. The monitoring well network should be re-evaluated to determine whether deeper geologic units representing the fractured bedrock should be penetrated and monitored.

Well Construction

The wells were not completed with a continuous well seal capable of protecting against the vertical migration of fluids. A diagram showing well completion details is included in Attachment 17.

Sampling and Analysis Plan

The plan includes procedures and techniques for sample collection, preservation, shipment and chain of custody control. The plan, however, does not provide in sufficient detail a description of water level measurement and approved sampling techniques that prevent cross-contamination and ensure the collection of a representative sample. Analytical procedures are not described in the plan.

Sampling procedures have not been followed according to the prescribed method in the plan. A device described as a glass jar attached to a rope is used in place of the Kemmerer sampler to withdraw samples.

The operator stated that the results of the first two quarterly analysis (August '82, November '82) were considered to be invalid due to sampling error. The error was reportedly introduced when the same sampling device was used to sample the upgradient (leachate) wells and downgradient barrier wells.

The facility's sampling and analysis plan is included in Attachment 18.

Parameters Tested

The facility's monitoring program was designed to comply with the RWOCB's program. On May 25, 1982, the RWOCB modified the facility's monitoring and reporting program to include most of the parameters listed in the ISD ground water monitoring requirements (coliform bacteria and turbidity were not included).

The first quarterly analysis under this new program was due August 15, 1982. A review of the four quarterly analysis reports for the first year (August '82, November '82, February '83, May '83) disclosed that all required parameters are not being tested by the facility.

Statistical Analysis

Since the RWQCB's monitoring program does not include an up-gradient well, no provisions are made to determine the initial background means. The application of Student's T-Test to determine statistically significant increases (or decreases for pH) over the initial background level cannot be used, since there are no initial background values from an upgradient well to make a comparison.

Assessment Program

The facility has not prepared an outline of a ground water quality assessment program.

Closure and Post-Closure Plan

A copy of a Report entitled "Site Closure and Maintenance Report" (Attachment 19) was submitted as the facility's written closure plan.

The Report only briefly outlines the closure performance standards that will be met at the time of closure. The Report refers to the Operations Plan for a description of phasing and closure procedures, however, this information was not submitted with the Report. Therefore, only the Report was reviewed for compliance with the requirements for a closure and post-closure plan.

A post-closure plan based on a 30-year period of post-closure care has not been prepared for the facility.

A closure/post-closure plan inspection checklist (Attachment 20) provides a summary of items that were not addressed in the facility's closure/ post-closure plans.

Cost Estimates for Closure/Post-Closure Care

The estimated cost of closure is \$1,300,000. Since the closure (and post-closure care) cost estimate is not dated, it is unknown whether this is the first or latest closure cost estimate. The facility is required to adjust the closure and post-closure care cost estimate for inflation on an annual basis.

The estimated cost of post-closure care is \$410,000 per year. The facility has not complied with the ISD provisions for estimating the cost of post-closure monitoring and maintenance which requires that the cost estimate be calculated by multiplying the latest post-closure cost estimate by 30.

Closure Cost Estimate =	\$ 1,300,000
<u>Post-Closure Cost Estimate =</u>	<u>\$12,300,000</u> (410,000 x 30)
<u>Total Estimated Cost for</u>	
Closure and Post-Closure Care =	\$13,600,000

SUMMARY

1. 40 CFR 265.90(c)(1)

The ground water monitoring waiver demonstration does not establish the potential for migration of hazardous waste or hazard waste constituents from the facility to the uppermost aquifer.

2. 40 CFR 265.90(c)(2)

The ground water monitoring waiver demonstration does not establish the potential for hazardous waste or hazardous waste constituents which may enter the uppermost aquifer to migrate to a water supply well or surface water.

3. 40 CFR 265.91(a)(1)

At least one monitoring well has not been installed hydraulically upgradient from the limit of the waste management area.

4. 40 CFR 265.91(a)(2)

The well number and locations of the downgradient wells do not ensure prompt detection of contaminant migration from the south and southeastern boundaries of the waste management area.

The well depths do not ensure prompt detection of contaminant migration from the waste management area to the deeper fractured bedrock units that may represent the uppermost aquifer.

5. 40 CFR 265.91(c)

The annular spaces surrounding the well casing are not properly sealed to prevent contamination of ground water.

6. 40 CFR 265.92(a)

The facility has not followed the ground water sampling and analysis plan. The plan does not include analytical procedures.

7. 40 CFR 265.92(B) and 265.92(c)(1)

The required parameters in ground water samples are not being tested quarterly for the first year.

8. 40 CFR 265.93(a)

The facility has not prepared an outline of a ground water quality assessment program.

9. 40 CFR 265.312

No testing has been conducted to verify that the BKK practice of mixing liquid ignitable/reactive wastes with municipal refuse meets the requirements for the landfilling of this special category of wastes.

10. 40 CFR 265.313

The BKK facility may not meet the design and operational requirements for the landfilling of bulk liquids (i.e. A chemically/physically resistant liner and leachate collection and removal system or treatment/stabilization to remove free liquids).

11. 40 CFR 265.13

The waste analysis plan does not include proper procedures for testing incoming waste for potential ignitability. The frequency of analysis used to verify that an incoming waste matches the waste description on the manifest appears to be insufficient since the plan only specifies an analysis in the event that the manifest does not provide sufficient waste load identification.

12. 40 CFR 265.112(a)(2)

The closure plan does not estimate the maximum extent of operation which will be unclosed during the life of the facility.

13. 40 CFR 265.112(a)

The steps to close in the plan do not include the procedures for the final deposition of waste materials, decontamination of equipment and structures and closure certification.

14. 40 CFR 265.112(a)(4)

The closure plan does not include a schedule for final closure activities.

15. 40 CFR 265.310

The closure plan does not describe, in sufficient detail, the containment of waste, the maintenance and monitoring of the leachate collection/removal system and gas collection and control system, the protection and maintenance of surveyed benchmarks and security measures necessary to restrict access to the landfill.

16. 40 CFR 265.118

The facility has not prepared a written post-closure plan.

17. 40 CFR 265.142

The closure cost estimate has not been adjusted annually using an inflation factor.

18. 40 CFR 265.114

The post-closure cost estimate has not been adjusted annually using an inflation factor.

The post-closure cost estimate has not been calculated by multiplying the latest cost estimate by 30.

List of Attachments

1. RCRA Part A Application
2. RCRA Interim Status Ground Water Monitoring Inspection Report by J. M. Sorge
3. Description of BKK Landfill Operations
4. DOHS letter to BKK referencing the landfilling of bulk liquids
5. BKK Waste Analysis Plan
6. BKK Facility Plan and Contour Map
7. Certified Testing Laboratories Water Analysis Report, December 1982
8. Certified Testing Laboratories Water Analysis Report, March 1983
9. Barrier No. 1 Location Plan and diagram
10. Barrier No. 2 Location Plan and diagram
11. BKK Plan for Leachate Piping
12. BKK Ground Water Monitoring Waiver Demonstration
13. RWQCB Waste Discharge Requirements Order No. 78-140
14. RWQCB Revised Monitoring and Reporting Program No. 4550
15. BKK Monthly Monitoring Report
16. ISD Ground Water Monitoring Inspection Checklist
17. BKK Well Construction Diagrams
18. BKK Ground Water Sampling and Analysis Plan
19. BKK Closure Plan and Closure/Post-Closure Care Cost Estimate
20. ISD Closure/Post-Closure Plan Inspection Checklist
21. Photographs

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EPA ID No. CAD067786749
Report No. FIS 1 R(83)E166

Joseph R. Johnson
Chief Engineer
BKK Corporation
P.O. Box 3038
Torrance, CA 90510

Dear Mr. Johnson:

On June 8 and 9, 1983, a hazardous waste investigation was conducted at your BKK Sanitary Landfill located in West Covina, California. During the course of this investigation, information was gathered in accordance with Section 3007 of the Resource Conservation and Recovery Act of 1976. A copy of our investigation report is enclosed for your information.

If you have questions related directly to technical aspects of this report, please contact Daniel Shane at (415) 974-7842.

Sincerely yours,

Kathleen G. Shimmin
Chief, Field Operations Branch

Enclosures

- Inspection Report
- Groundwater Monitoring Inspection Checklist
- Closure and Post-Closure Plan Inspection Checklist

bc: P. Blais (T-2-1)
Wilson (T-2-2)
T-3-2:Shane:June:In9#3:7/21/83:604E

CONCURRENCES

SYMBOL								
SURNAME								
DATE								